

returning to the river, this time as a sightseer in a commercial tourist raft. The author develops a powerful and poignant analysis of the scope, costs and benefits of the development of the Colorado, which, in less than one man's lifetime, has become one of the most physically controlled and institutionally encompassed rivers in the world. It is sobering to realize, for example, that during the 19th century the Colorado was navigable from its mouth to beyond Yuma, yet, with the exception of 1983, for over 50 years no water has reached the Gulf of California at all! Again, it is almost frightening to

learn that from Powell's expedition in 1869 to 1949, only 100 people ran the Grand Canyon, whereas today the figure is 14 000 per year, even after strict regulation.

The book will be useful for those concerned with the history of environmental exploitation. For those who want a chance to share in that fascinating obsession which working with rivers can bring, it is essential and compelling reading.

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RIPARIAN LANDSCAPES by G. P. Malanson, Cambridge University Press, Cambridge, 1993. No. of pages: x + 296. Price: £35.00 (\$59.95). ISBN 0-521-38431-1.

This timely book is the latest in the well established *Cambridge Studies in Ecology* series. It attempts the difficult task of fusing together a diverse and fast-growing literature on ecological, geomorphological and hydrological processes in riparian areas. These various bodies of literature are interfaced through the landscape ecology paradigm which runs as a dominant (and sometimes overbearing) theme through the book.

Chapter 1 considers the principles of landscape ecology and applies them to riparian environments in order to provide a unifying conceptual framework for their study. In Chapter 2 a number of definitions are given, many of them aimed at giving the reader a better grasp of landscape ecology terminology, others at clarifying the nature of terrestrial-aquatic gradients and of ecological and geomorphological processes operating along them. The values of riparian environments (aesthetic, recreational, economic and environmental) are also considered. A review of riparian literature by ecoregion (seven main types are chosen) forms the bulk of Chapter 3. The important point is made that dominant processes in riparian areas vary according to geographical location,

as do the steepness of ecological gradients between riparian and surrounding areas. Chapter 4, entitled 'Internal Structure' is long and covers a wide range of topics contributing to our understanding of ecological and geomorphological characteristics of riparian areas. The emphasis here is very much on the spatial arrangements of biotic and abiotic elements. In Chapter 5, the movements of water, sediments and nutrients between these elements are discussed. The dynamics of riparian species is the main subject of Chapter 6, and includes consideration of genetic flows, dispersal mechanisms and invasions of exotic species. In the final chapter, simulation models and their role in the conservation and management of riparian landscapes are discussed.

Despite poorly reproduced photographs, this book is an excellent guide to the literature on riparian ecology, with good geographical coverage. It is a shame that the rather contrived language of landscape ecology is at times in danger of confusing rather than enlightening the reader. While landscape ecology can provide a perspective for integrating our knowledge of processes in a more spatially explicit way, it is, as remarked by the author, rather more useful as a concept than it is as a practical approach to working in real places.

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AN INTRODUCTION TO GLOBAL ENVIRONMENTAL ISSUES by K. T. Pickering and L. A. Owen, Routledge, London and New York, 1994. No. of pages: xxiii + 390. Price: £50 (hb), £15.99 (pb). ISBN 0-415-10227-8 (hb), 0-415-10228-6 (pb).

A great deal of effort, both presentational and financial, has gone into this handsome text book. It has literary

quotes, colour plates, fashionable boxes, summaries of key points, annotated guides to further reading, a lengthy glossary, issues for discussion, and copious line drawings. It is also broad in scope, aiming 'to explain the science behind the world's physical systems and processes, building on this factual base to explore the world's major environmental concerns including the effects on and of human activity'.

A large chunk of the text, not far off a third, deals with